

MODULATION OF SULFATE PERMEASE FOR PHOTOSYNTHETIC HYDROGEN PRODUCTION

ABSTRACT

[00193] Sustained hydrogen production is obtained by the culturing of a genetically-modified algae, where the ability of the chloroplasts to intake sulfate is reduced or eliminated compared to wild-type algae. The alga is cultured in a sealed environment in a liquid or solid medium that contains sulfur, and hydrogen is generated continuously. Alternatively, the algae may be cultured in the presence of bacteria that also produce hydrogen gas. The hydrogen produced can be collected and used as a clean energy source.

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